



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

(P)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/755,539	01/12/2004	Douglas H. Werner	PST-11202/36	1306
25006	7590	01/17/2007	EXAMINER	
GIFFORD, KRASS, GROH, SPRINKLE & CITKOWSKI, P.C.			HO, TAN	
PO BOX 7021			ART UNIT	PAPER NUMBER
TROY, MI 48007-7021			2821	
SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE		
3 MONTHS	01/17/2007	PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/755,539	WERNER ET AL.	
	Examiner	Art Unit	
	Tan Ho	2821	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 12 January 2004.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) 9-41 is/are allowed.
- 6) Claim(s) 1-8 and 15-21 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 12 January 2004 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>See Continuation Sheet</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claims 4, 9, and 10 are objected to because of the following informalities: In claim 4, line 2, the recitation "a frequency selective surface" should be changed to --the frequency selective surface—if it is the frequency selective surface defined in claim 1. In claims 9 and 10, there are no definitions of η_0 , β_0 , and d. Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless —

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-4, 7, 8, 15, 16, 20, and 21 are rejected under 35 U.S.C. 102(e) as being anticipated by Diaz et al (US Patent 6,512,494).

Diaz et disclose, in figure 1, a structure comprising a dielectric substrate 104, a frequency selective surface 102 formed on a surface of the dielectric substrate, and an electrical conductive layer 106 formed on another surface of the dielectric substrate, wherein the thickness of the dielectric substrate is less than wavelength of the frequency band. Figures 7-10, 28, and 29 show the FSS structure characterized by the permittivity and the permeability.

Art Unit: 2821

4. Claims 15-17, 20, and 21 are rejected under 35 U.S.C. 102(e) as being anticipated by Wilhelm et al (US Patent Application 2003/0142036).

Wilhelm et al disclose, in figure 1A, a structure comprising a dielectric substrate 100, a frequency selective surface 110 formed on a surface of the dielectric substrate, and an electrical conductive layer 105 formed on another surface of the dielectric substrate. The patent to Wilhelm et al also teaches that the substrate for the FSS is ferrite material.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 5, 6, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Diaz et al in view of Church et al (US Patent Application 2003/0076276).

The patent to Diaz et al, described above, differs from the claimed invention because it does not disclose the FSS structure which is formed by genetic algorithm. Church et al disclose a FSS structure formed by genetic algorithm, see page 1, paragraph [0010]. Since one of ordinary skill in the art would have recognized the benefits of providing optimizing performance characteristics of the FSS structure, it would have obvious to providing the structure of Diaz et al with the genetic algorithm as taught by Church et al.

7. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wilhelm et al in view of Wu (US Patent 6,608,607).

The patent to Wilhelm et al, described above, differs from the claimed invention because it does not disclose the FSS absorber. Wu discloses, in figure 1b, an antenna structure having frequency selective absorber 20. Since one of ordinary skill in the art would have recognized the benefits of absorbing the unwanted frequency band, it would have obvious to providing the structure of Wilhelm et al with the absorber as taught by Wu.

Allowable Subject Matter

8. Claims 9-14 are allowed.

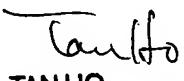
9. The patents to McKinzie, III et al, and Ho et al are cited as of interest showing the FSS structure similar to that disclosed.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tan Ho whose telephone number is (571) 272-1822. The examiner can normally be reached on M-F (8:00AM - 5:00PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Callahan can be reached on (571) 272-1740. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


TAN HO
PRIMARY EXAMINER

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :4/22/2004,
4/28/2004, 6/2004, 7/2005.

Tan Ho
TAN HO
PRIMARY EXAMINER